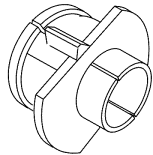
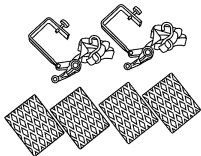


REMOVAL AND INSTALLATION

Body — 6.4L Diesel

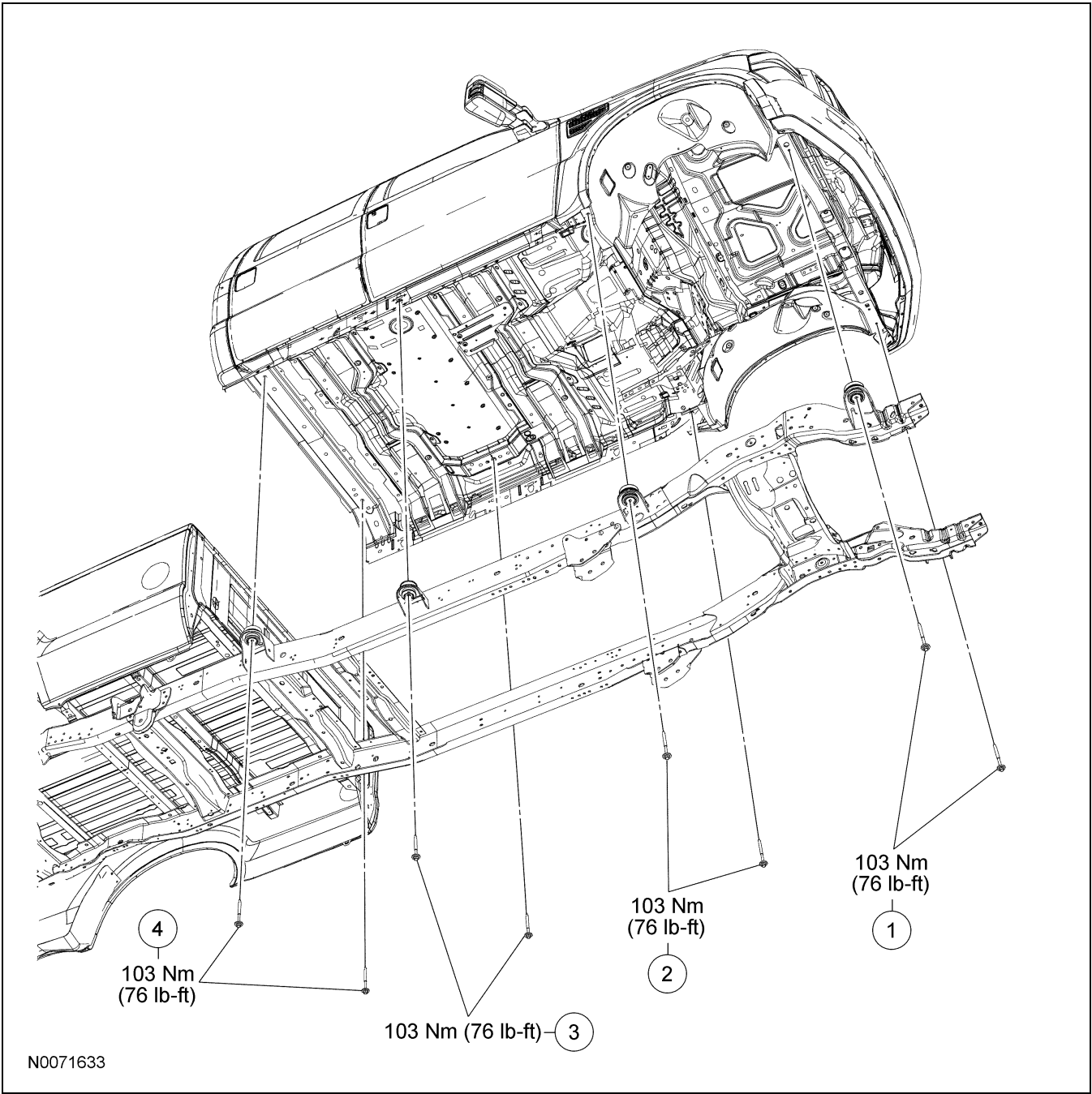
Special Tool(s)

 ST2591-A	Disconnect Tool, Transmission Cooler Line 307-459
 ST3035-A	Universal Cab Hold-Down Strap 138-04411 or equivalent

REMOVAL AND INSTALLATION (Continued)

Removal and Installation

NOTE: Crew Cab shown, all others similar.



Item	Part Number	Description
1	W712878	Front End Sheet Metal (FESM) body mount bolts (2 required) (all vehicles)
2	W712878	FESM body mount no. 1 bolts (2 required) (all vehicles)

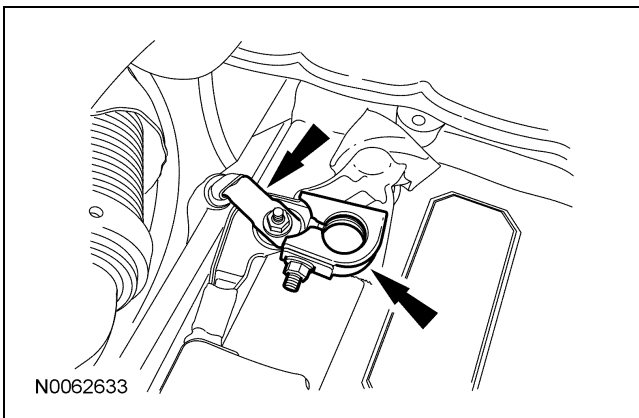
Item	Part Number	Description
3	W712879	FESM body mount no. 2 bolts (2 required) (Crew Cab only)
4	W712878	FESM body mount no. 3 bolts (2 required) (all vehicles)

(Continued)

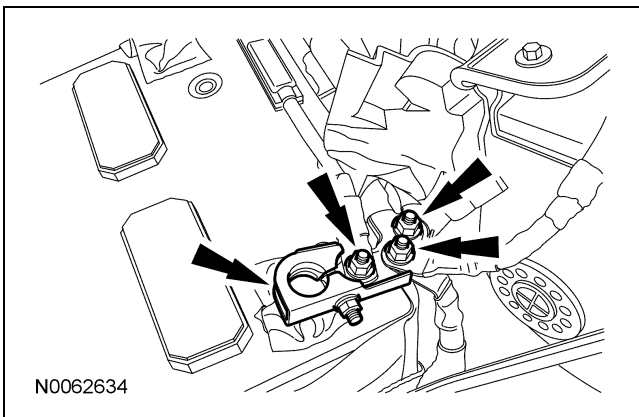
REMOVAL AND INSTALLATION (Continued)**All vehicles**

NOTE: A 2-post hoist must be used to lift the body from the chassis.

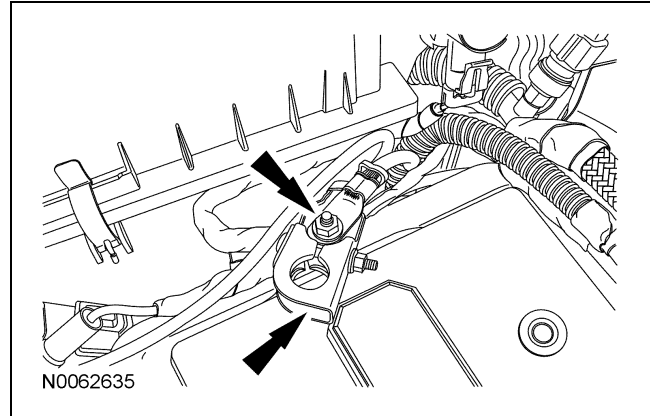
1. With the vehicle in NEUTRAL, position it on a hoist. For additional information, refer to Section 100-02.
2. Drain the engine coolant. For additional information, refer to Section 303-03.
3. Disconnect the battery cables from the left and right batteries. For additional information, refer to Section 414-01.
4. Separate the leads from the left positive battery cable.



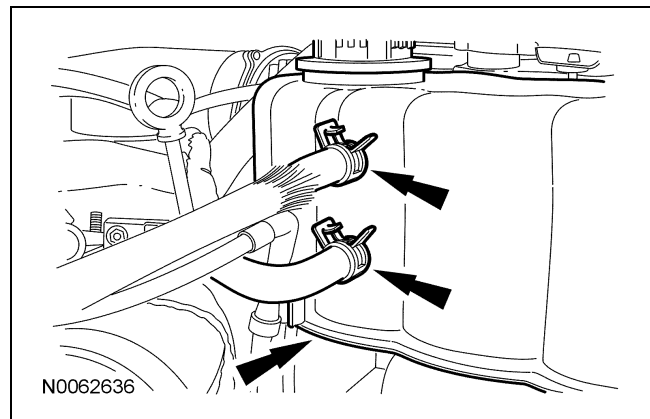
5. Separate the leads from the right positive battery cable.



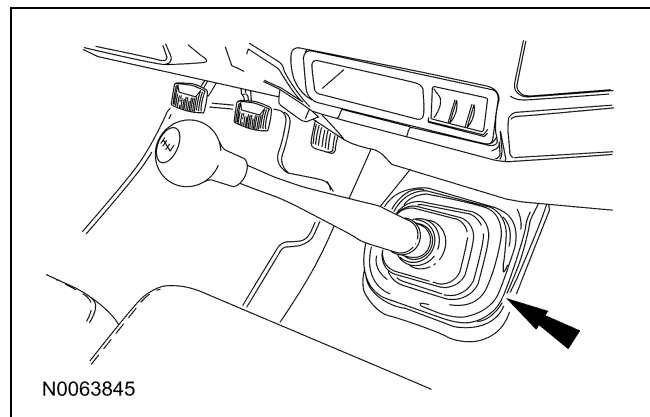
6. Separate the leads from the right negative battery cable.



7. Remove the left and right batteries.
8. Remove the 2 hoses from the degas bottle.

**Manual transmission**

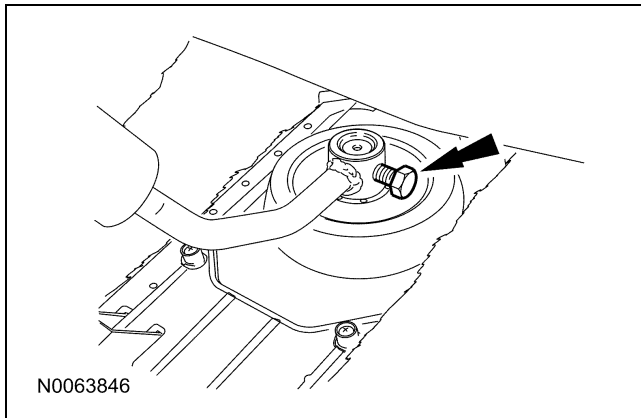
9. Lift upward on the gear shift boot to access the gear shift bolt.



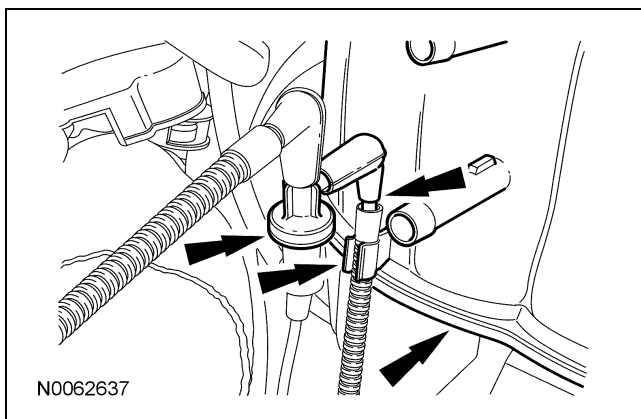
REMOVAL AND INSTALLATION (Continued)

10. Remove the gear shift bolt.

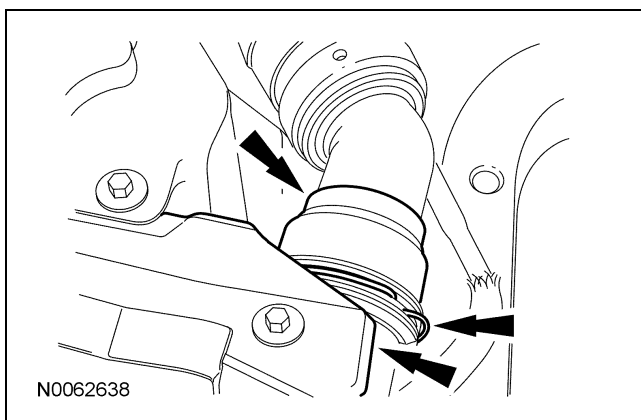
- To install, tighten to 30 Nm (22 lb-ft).

**Four-Wheel Drive (4WD) vehicles**

11. Disconnect the check valve from the vacuum hose on the degas bottle.

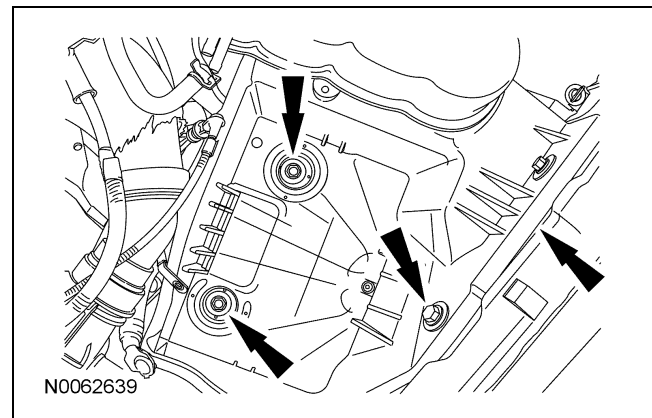
**All vehicles**

12. Remove the retaining clip and disconnect the upper radiator hose from the radiator.

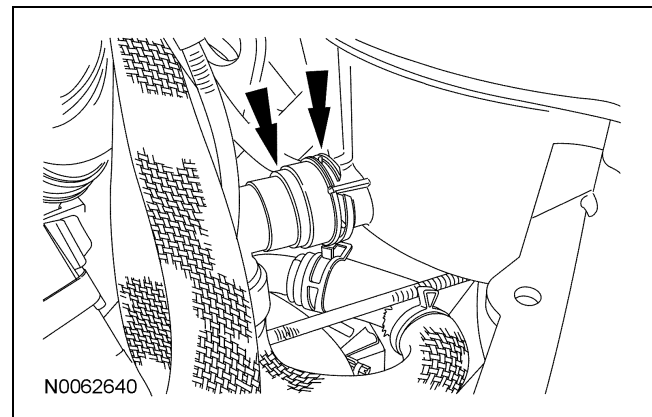


13. Remove the bolts and position the left battery tray aside.

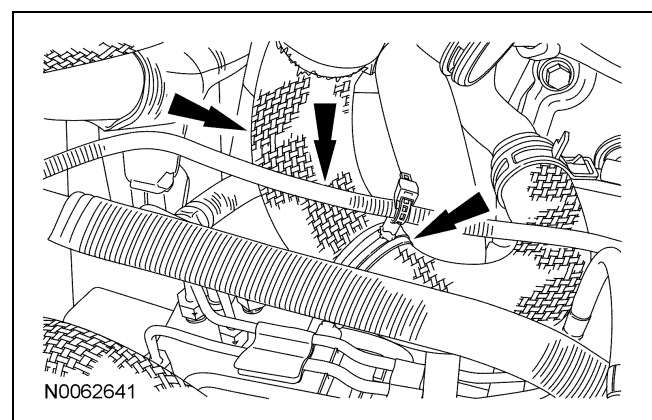
- To install, tighten to 16 Nm (142 lb-in).



14. Remove the retaining clip and disconnect the fill hose from the degas bottle and remove the degas bottle.

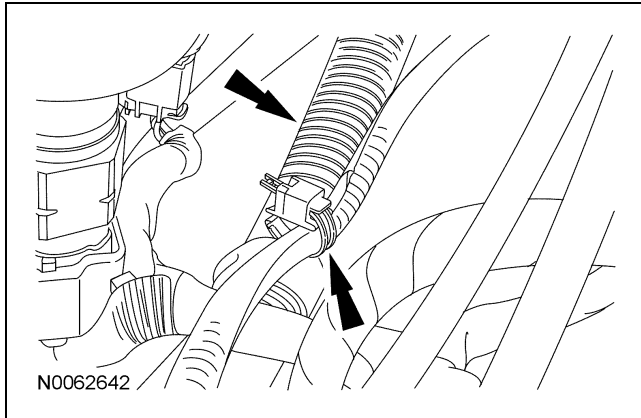
**4WD vehicles**

15. Unclip the vacuum hose from the degas bottle fill hose.

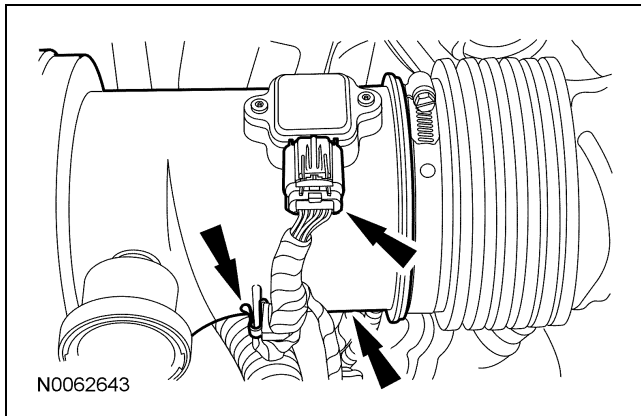


REMOVAL AND INSTALLATION (Continued)

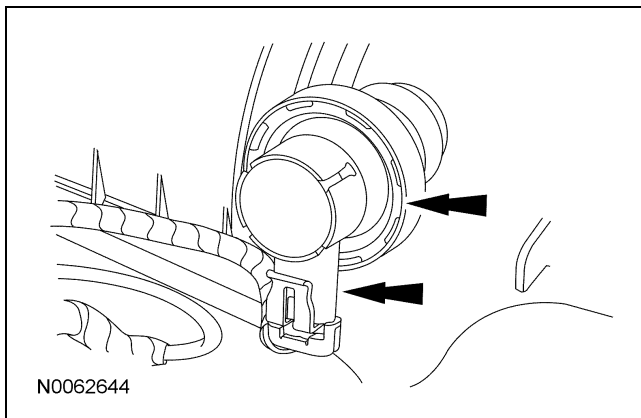
16. Unclip the vacuum hose from the brake Hydro-Boost® hose and position aside.

**All vehicles**

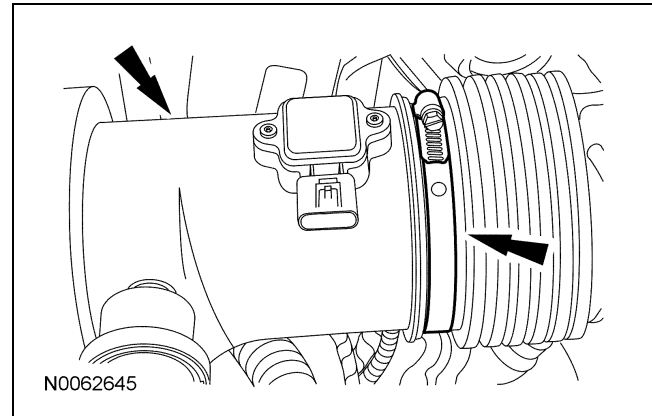
17. Disconnect the Mass Air Flow (MAF) sensor connector and unclip from the air cleaner housing.



18. Disconnect the air filter restriction indicator connector from the air filter restriction indicator.

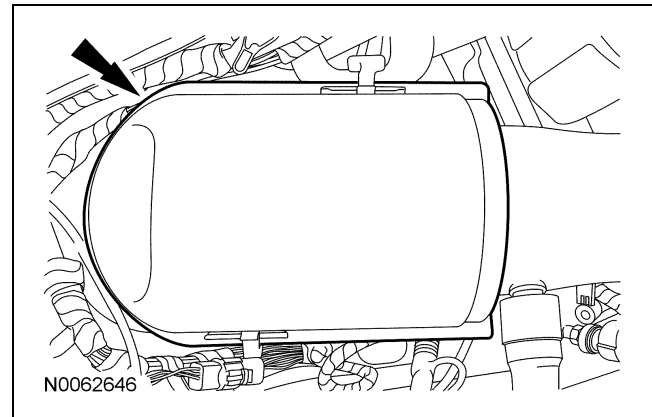


19. Loosen the clamp on the air cleaner pipe.

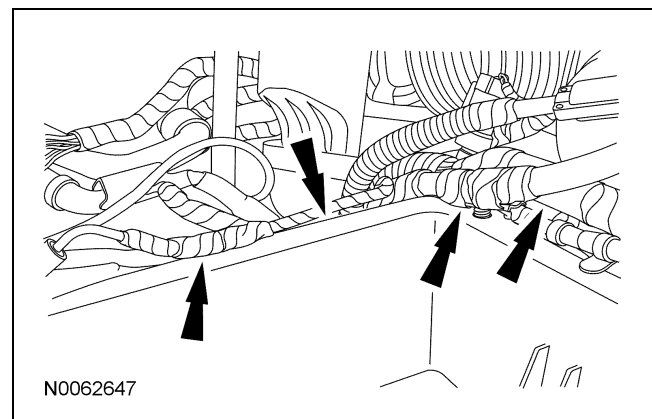


20. **NOTE:** The air cleaner housing must be removed to access the A/C fitting. Install the air cleaner housing after the A/C system has been charged.

Remove the air cleaner housing.

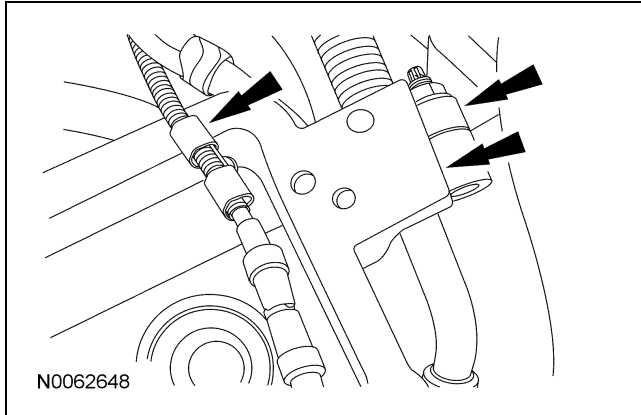


21. Remove the 3 wiring harnesses from the top of the right battery tray.

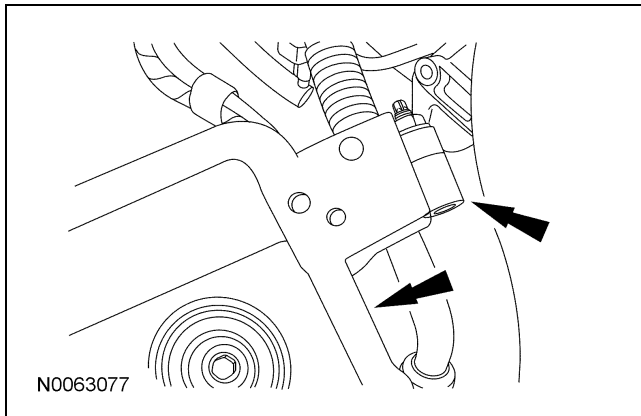


REMOVAL AND INSTALLATION (Continued)**4WD vehicles**

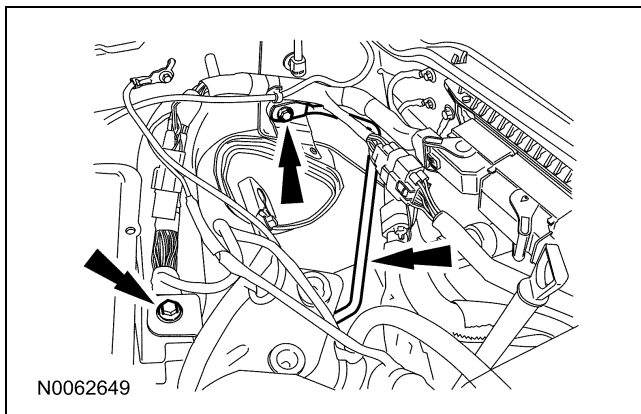
22. Remove the vacuum line and A/C line from the right battery tray.

**All vehicles**

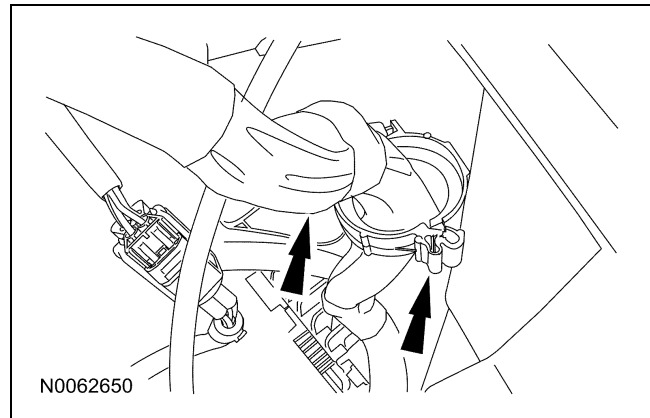
23. Remove the A/C line from the right battery tray.



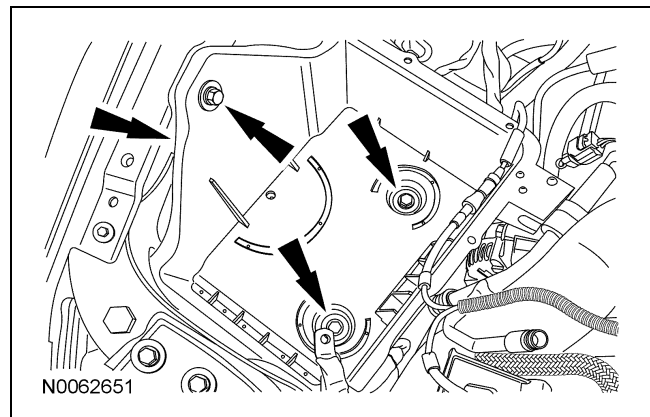
24. Remove the 2 bolts and the Air Cleaner (ACL) bracket.
- To install, tighten to 16 Nm (142 lb-in).



25. Remove the battery cable from the retainer on the side of the right battery tray.

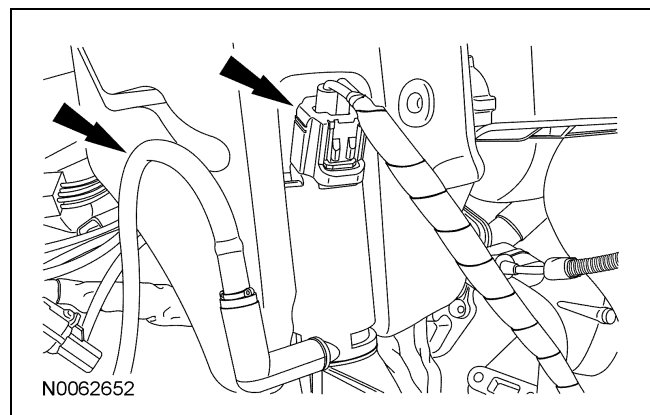


26. Remove the bolts from the right battery tray.
- To install, tighten to 16 Nm (142 lb-in).



27. Position the right battery tray for access to the washer fluid bottle.

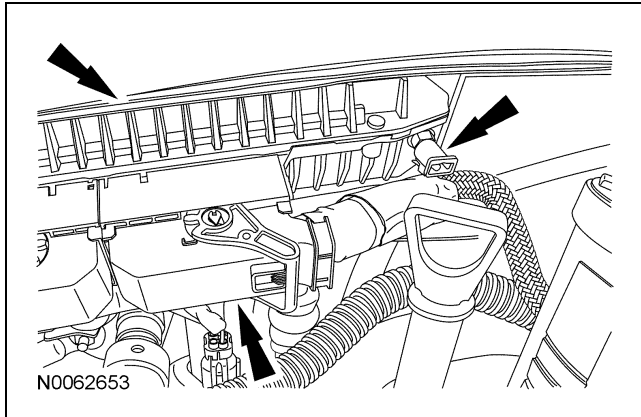
- Disconnect the washer fluid bottle electrical connector.
- Disconnect the washer fluid bottle hose.
- Remove the right battery tray.



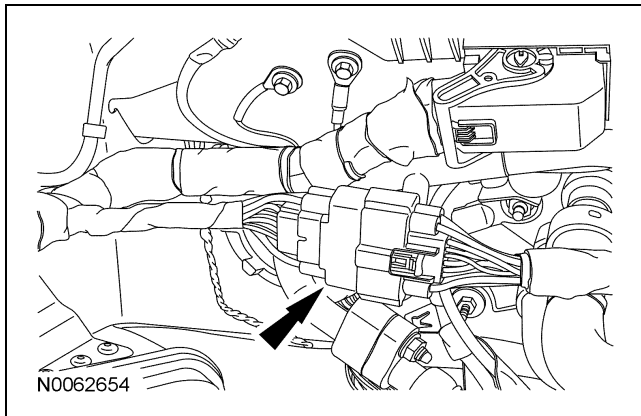
REMOVAL AND INSTALLATION (Continued)

28. **NOTE:** The connector must be removed to access the A/C fitting. Install the connector after the A/C system has been charged.

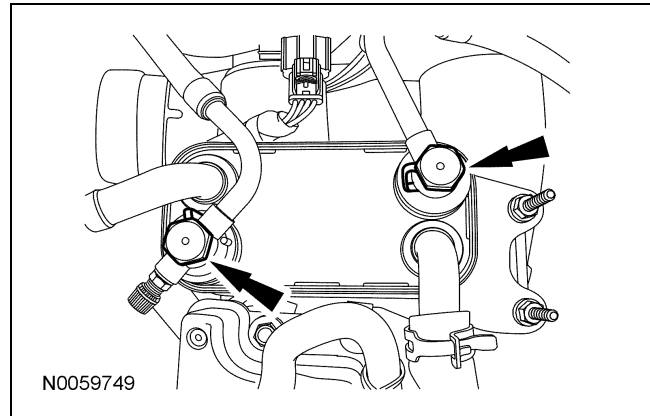
Disconnect the electrical connector and clip from the PCM.



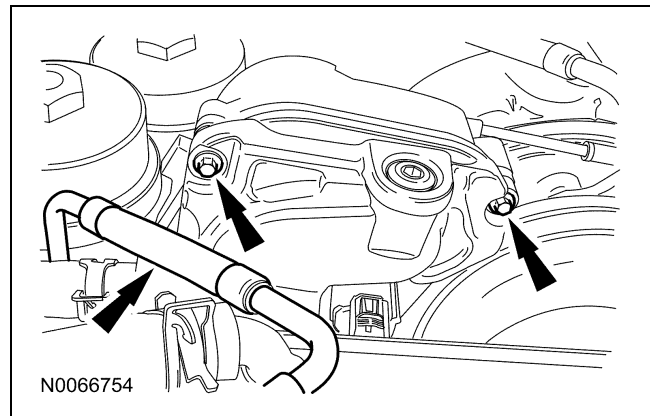
29. Disconnect the engine wiring harness located below the PCM.



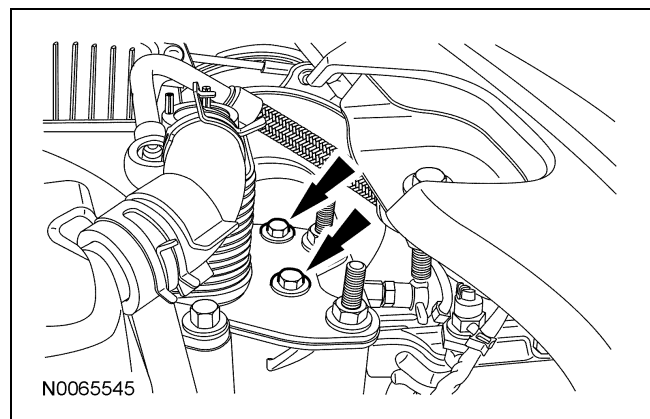
30. Recover the refrigerant. For additional information, refer to Section 412-00.
31. Remove the banjo fittings and the sealing washers from the fuel cooler.
- Discard the sealing washers.
 - To install, tighten the banjo fittings and the new sealing washers to 25 Nm (18 lb-ft).



32. Remove the 3 turbocharger actuator cooler front housing bolts.
- To install, tighten to 13 Nm (115 lb-in).



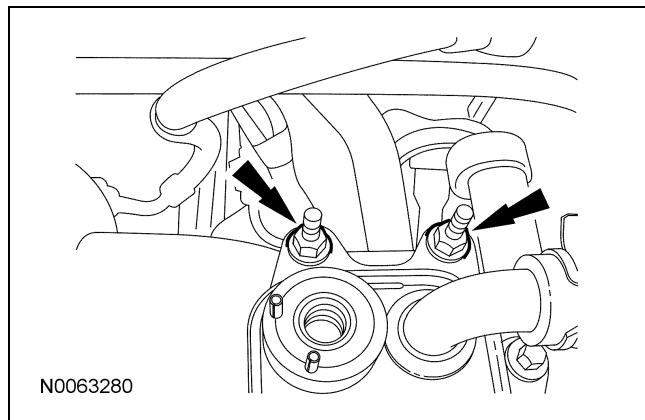
33. Remove the 2 fuel cooler mounting bolts.



REMOVAL AND INSTALLATION (Continued)

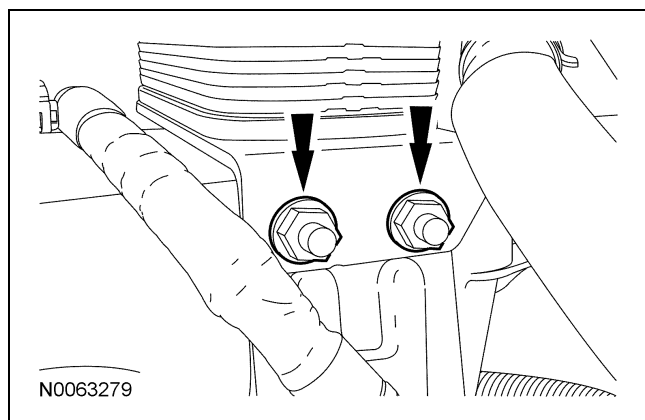
34. Remove the studs for the fuel cooler.

- To install, tighten to 38 Nm (28 lb-ft).



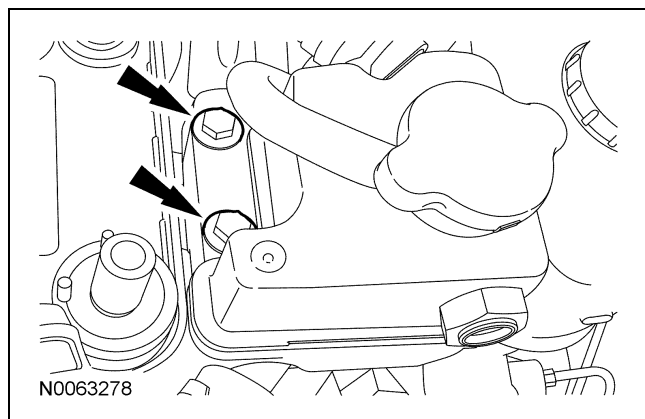
35. Remove the retaining nuts for the fuel cooler.

- To install, tighten to 19 Nm (168 lb-in).



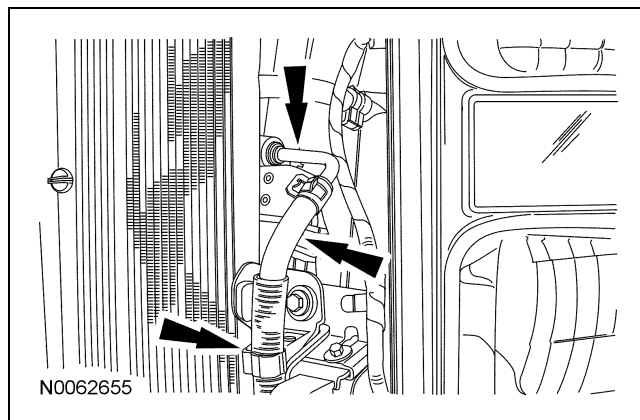
36. Remove the 3 bolts (2 shown) from the fuel cooler and coolant expansion tank. Position the fuel cooler and expansion tank aside.

- To install, tighten to 9 Nm (80 lb-in).

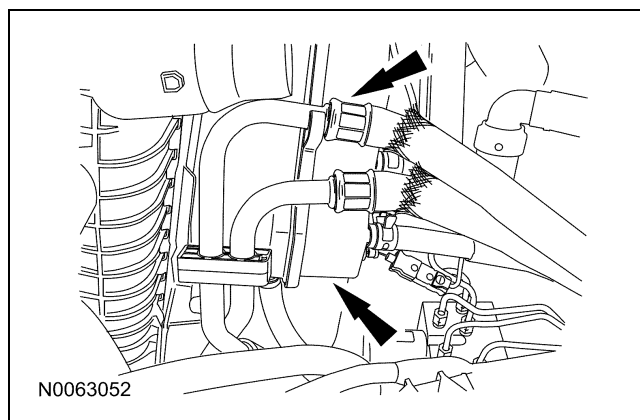


37. Using a suitable suction device, drain the power steering fluid reservoir.

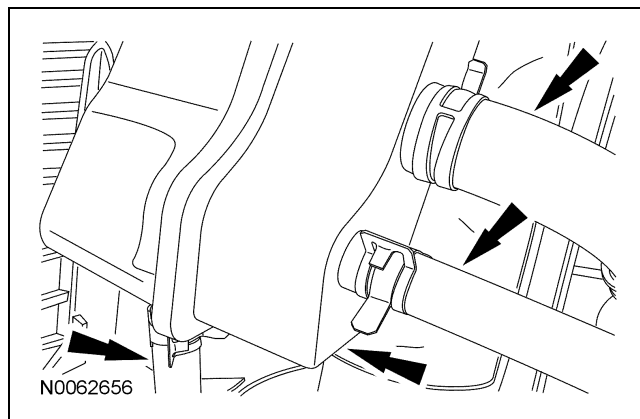
38. Disconnect the hose from the power steering auxiliary cooler line and remove the retaining clip.



39. Unclip the fuel cooler line from the side of the power steering fluid reservoir.

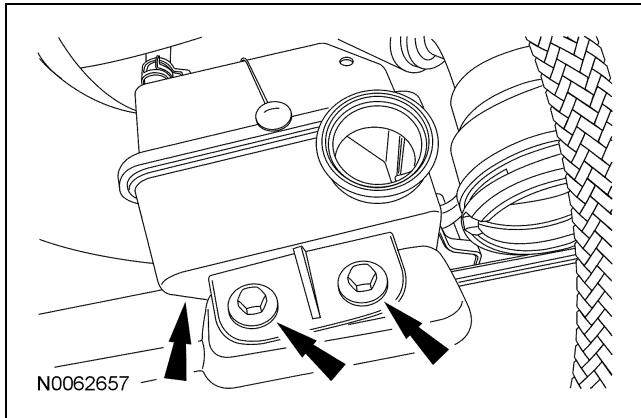


40. Disconnect the 3 hoses from the power steering fluid reservoir.

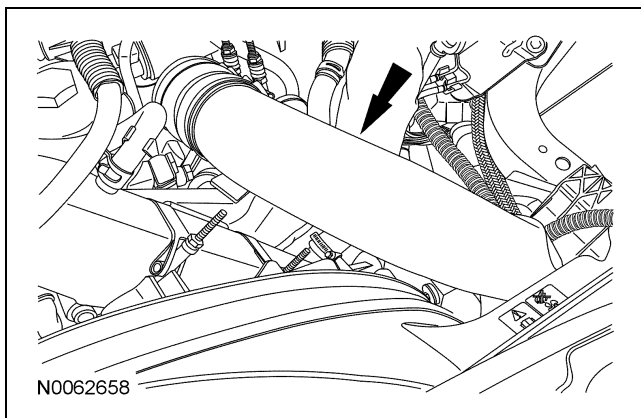


REMOVAL AND INSTALLATION (Continued)

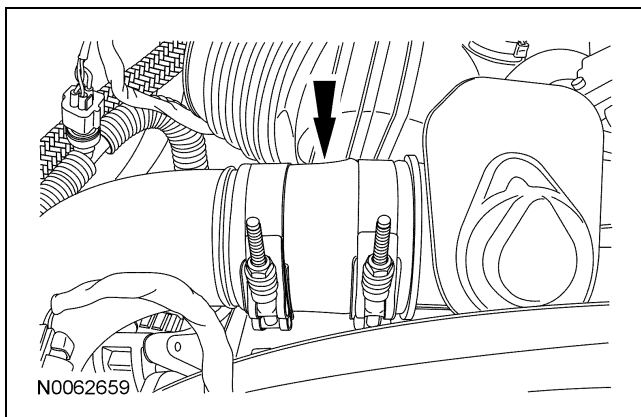
41. Remove the 2 bolts from the top of the power steering fluid reservoir and remove the reservoir.



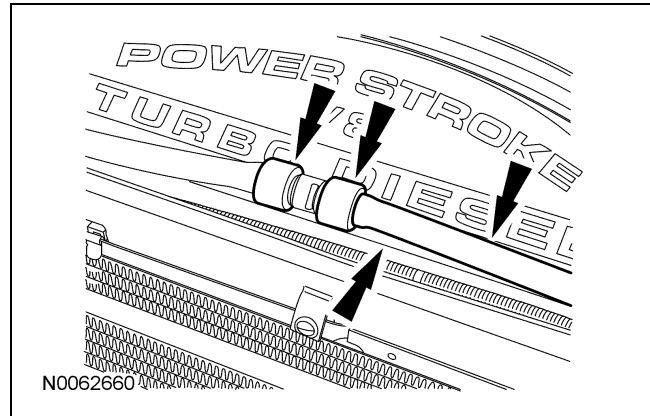
42. Disconnect the turbo charger-to-charger air pipe (left side).



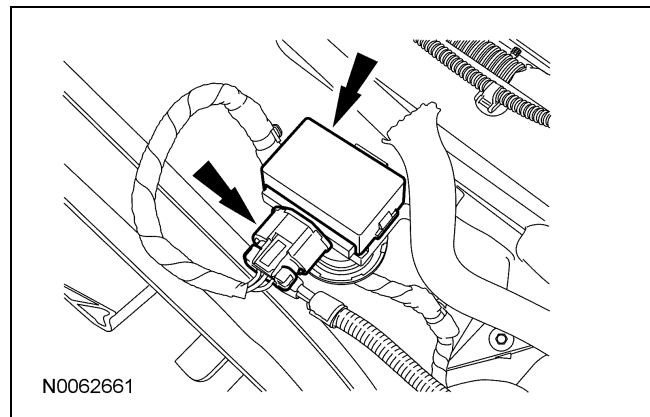
43. Disconnect the cooler-to-engine Charge Air Cooler (CAC) pipe (right side).



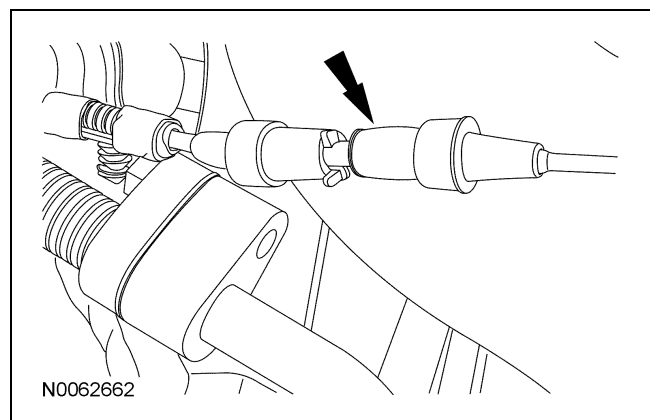
44. Disconnect the radiator hose from the top of the upper shroud and position aside.

**4WD vehicles**

45. Disconnect the electrical connector from the 4WD vacuum switch.



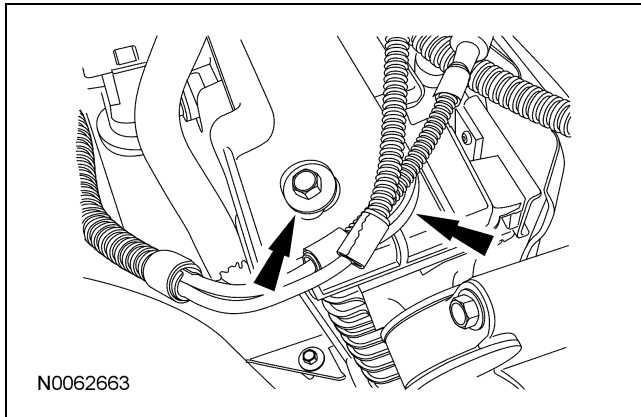
46. Disconnect the 4WD vacuum hose and position aside.



REMOVAL AND INSTALLATION (Continued)**All vehicles**

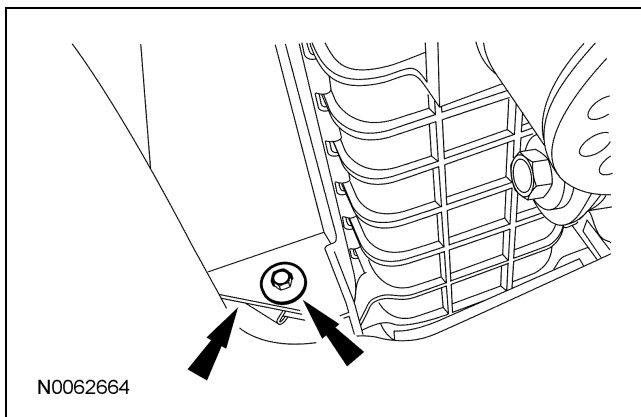
47. Remove the 2 upper bolts (1 each side) from the radiator shroud.

- To install, tighten to 6 Nm (53 lb-in).

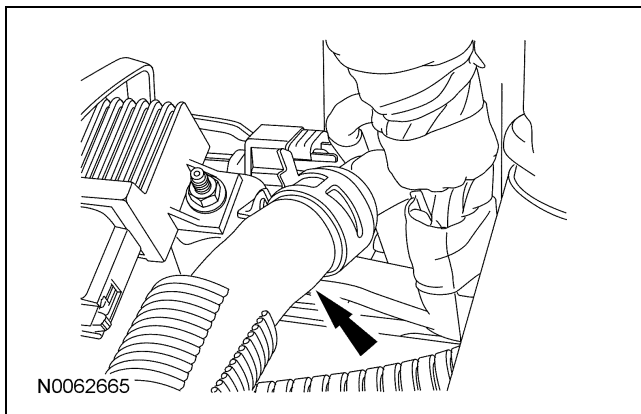


48. Remove the 2 lower bolts (1 each side) from the upper radiator shroud and remove the shroud.

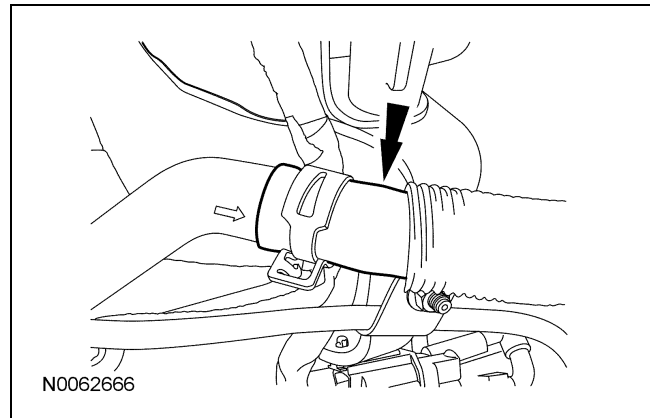
- To install, tighten to 6 Nm (53 lb-in).



49. Disconnect the heater hose from the left side of the engine.

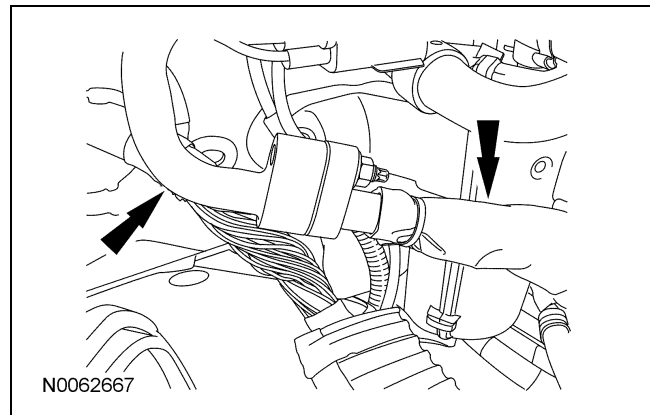


50. Disconnect the heater hose from the right side of the engine.



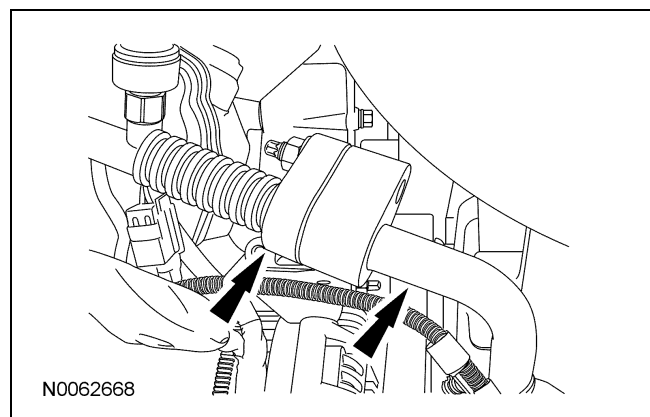
51. Remove the nut and disconnect the compressor manifold tube assembly from the accumulator.

- To install, tighten to 8 Nm (71 lb-in).



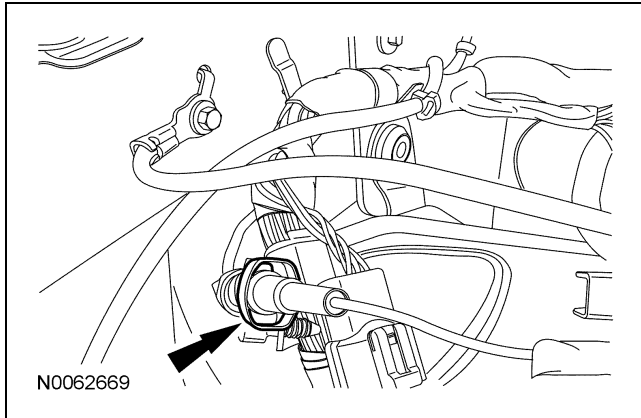
52. Remove the nut and disconnect the compressor manifold tube assembly from the condenser.

- To install, tighten to 8 Nm (71 lb-in).



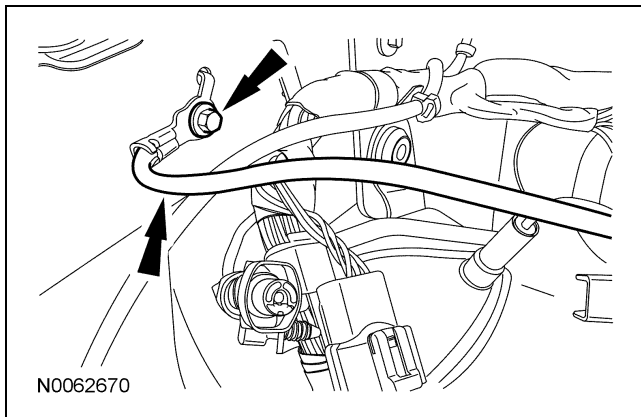
REMOVAL AND INSTALLATION (Continued)

53. Disconnect the electrical connector from the right side of the engine.



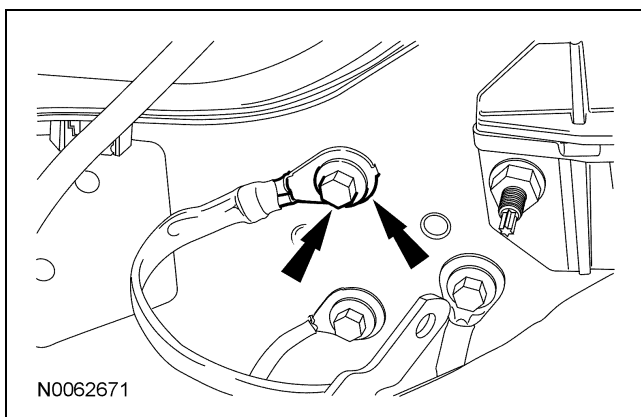
54. Remove the bolt and the ground wire from the right fender.

- To install, tighten to 12 Nm (106 lb-in).

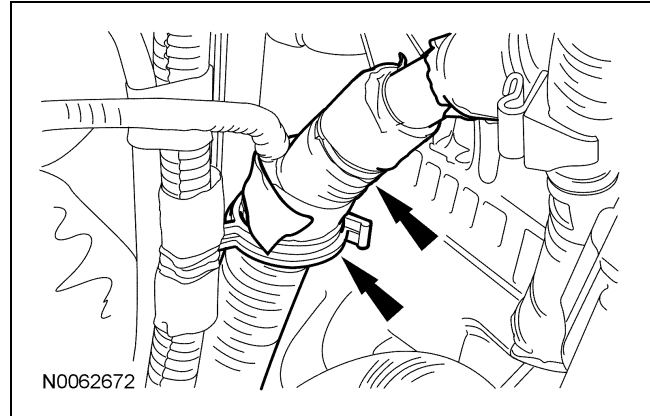


55. Remove the bolt and the left upper ground wire from the right front of dash.

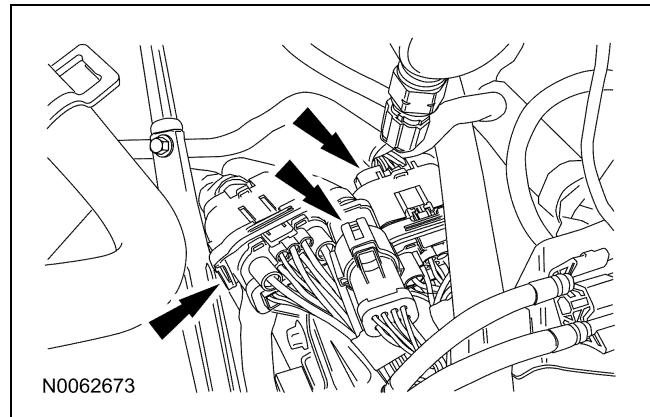
- To install, tighten to 12 Nm (106 lb-in).



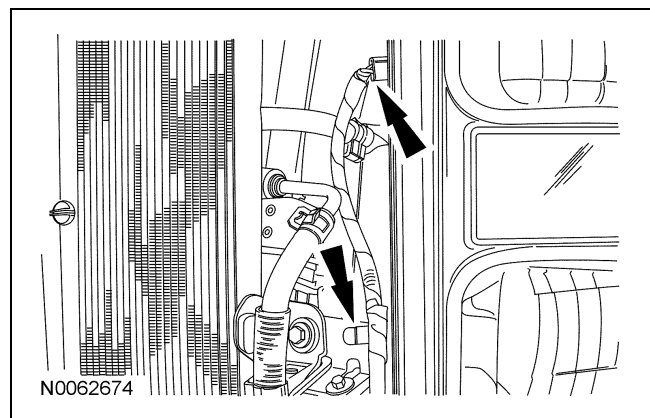
56. Remove the wiring harness from the retaining clip and position aside.



57. Remove the 3 electrical connectors from the bracket on the left side of the engine compartment and disconnect the electrical connectors.



58. Disconnect the fog lamp electrical connector from the front of the radiator support and position aside, if equipped.



59. **NOTE:** Make sure the vehicle wheels are straight.

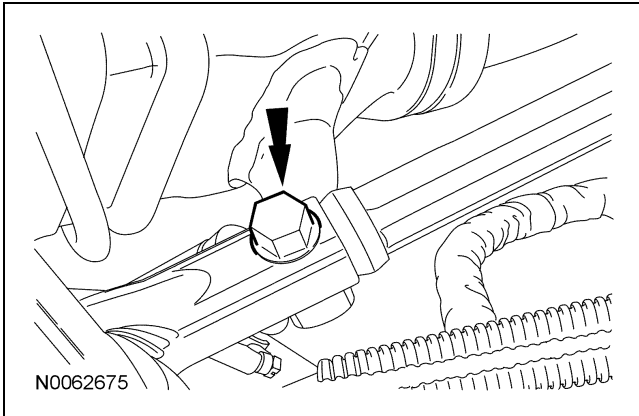
Place the vehicle in PARK and remove the key.

REMOVAL AND INSTALLATION (Continued)

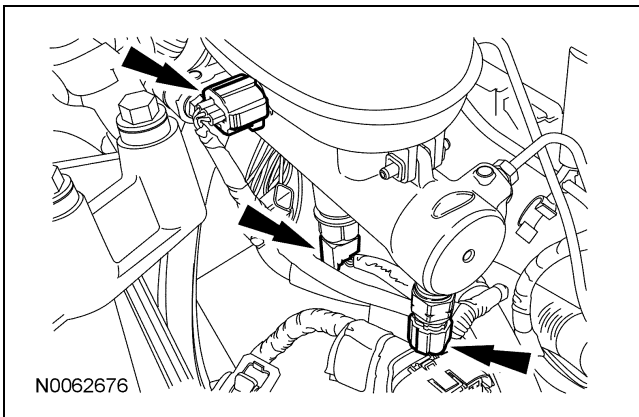
60. **NOTICE:** Do not allow the steering column shaft to rotate while the intermediate shaft is disconnected or damage to the clockspring can result. If there is evidence that the shaft has rotated, the clockspring must be removed and recentered. For additional information, refer to Section 501-20B.

Remove the intermediate steering shaft bolt and separate the shafts. Discard the bolt.

- To install, tighten to 40 Nm (30 lb-ft).

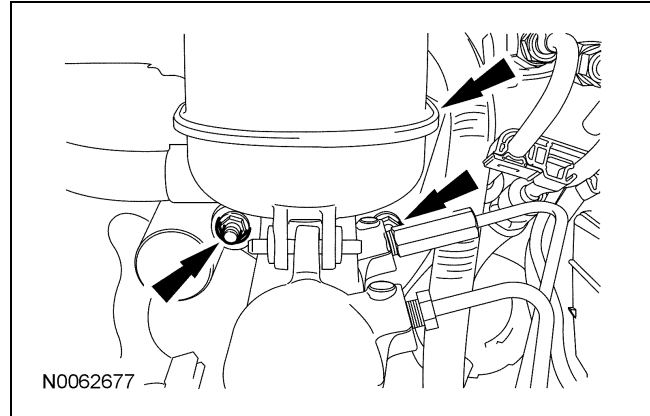


61. Disconnect the 3 electrical connectors from the brake master cylinder.

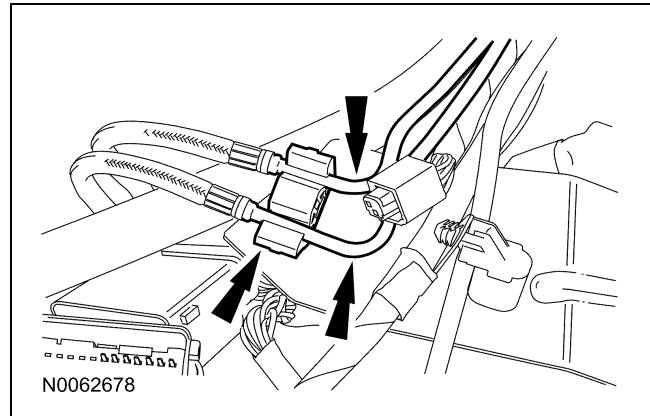


62. Remove the 2 nuts and the brake master cylinder from the Hydro-Boost® and position aside.

- To install, tighten to 30 Nm (22 lb-ft).

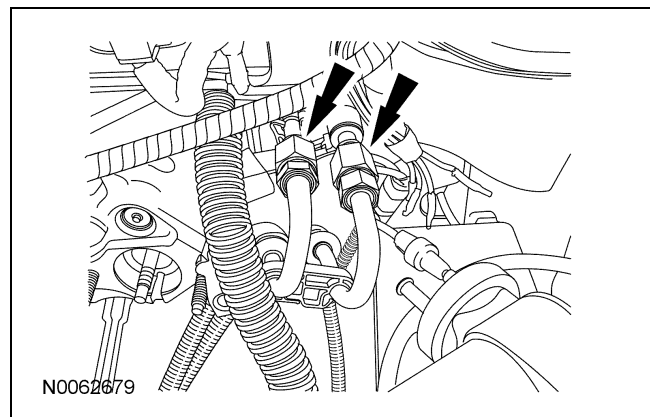


63. Remove the hydraulic brake lines from the retainer.



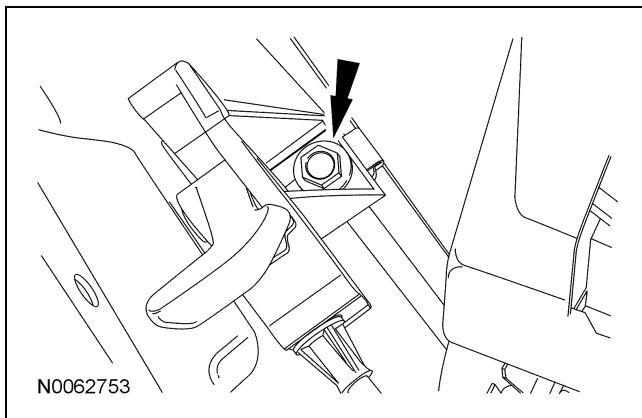
64. **NOTE:** New O-rings must be installed before the brake Hydro-Boost® lines are installed. Remove the 2 hoses and O-rings from the brake Hydro-Boost®.

- To install, tighten to 27 Nm (20 lb-ft).



REMOVAL AND INSTALLATION (Continued)

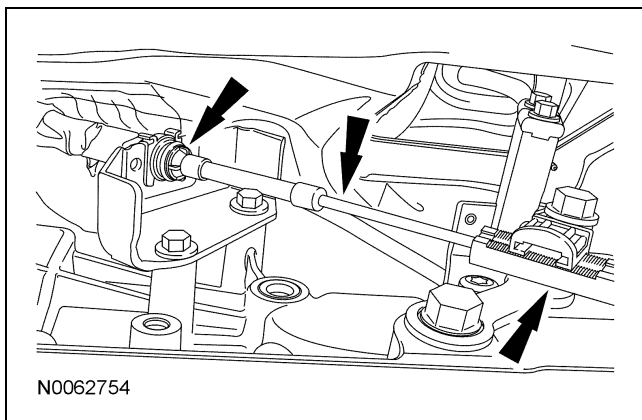
65. Remove the bolt from the hood release assembly and position aside.
- To install, tighten to 12 Nm (106 lb-in).



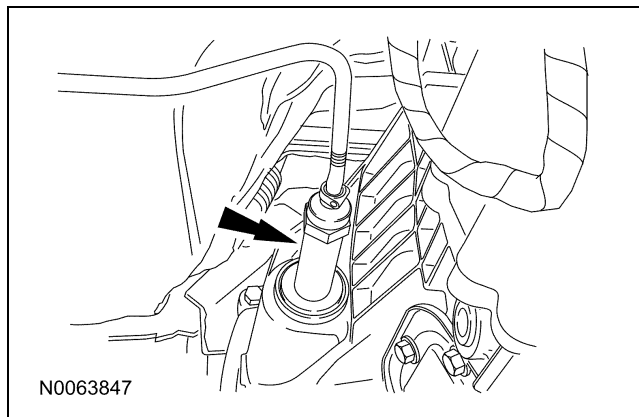
66. Raise the vehicle.

Automatic transmission

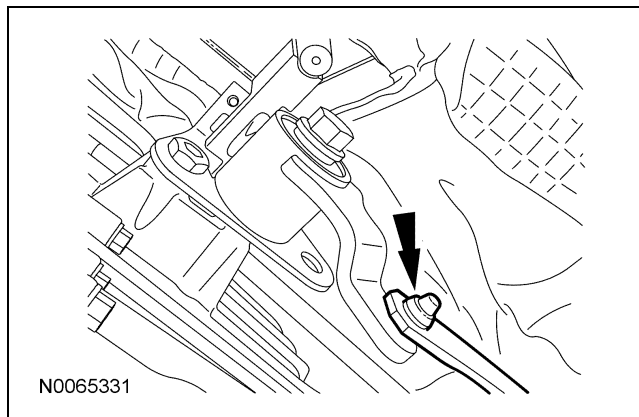
67. Disconnect the auto transmission cable from the manual valve and retainer clip.

**Manual transmission**

68. Remove the clutch slave cylinder from the rear of the bell housing by turning counterclockwise.

**4WD vehicles**

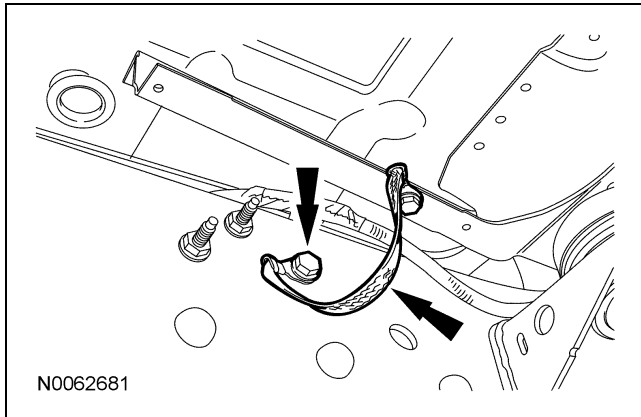
69. Disconnect the rod from the transfer case shift handle, if equipped.

**All vehicles**

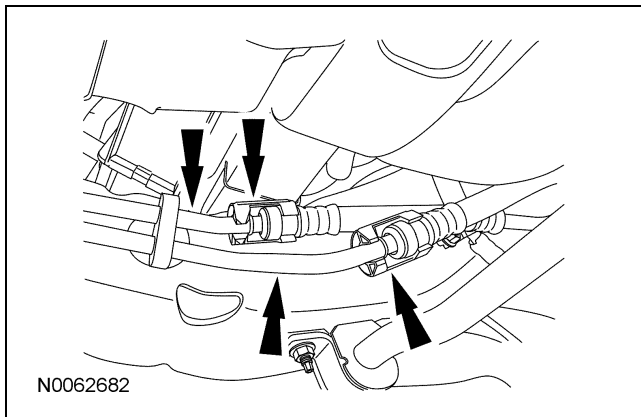
70. Release the parking brake tension and disconnect the brake cable at the intermediate connection and remove from the retainer on the frame. For additional information, refer to Section 206-05.

REMOVAL AND INSTALLATION (Continued)

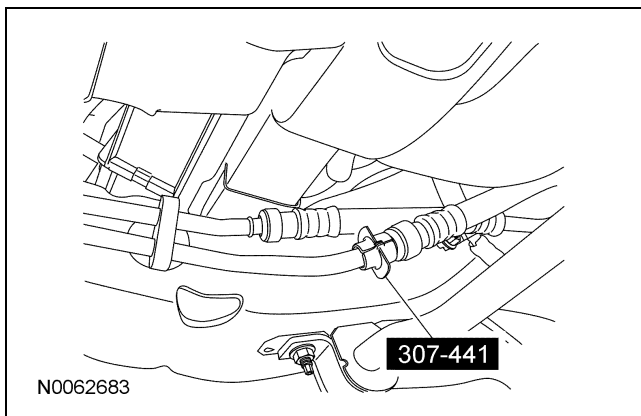
71. Remove the body/chassis ground on the right frame rail, behind the front wheel.
- To install, tighten to 25 Nm (18 lb-ft).



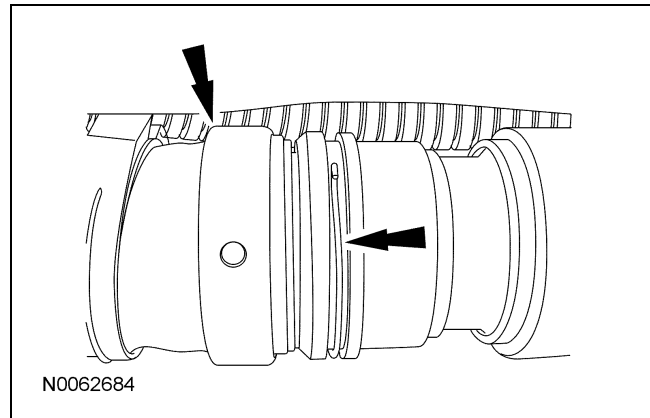
72. Remove the safety clips from the transmission cooler lines.



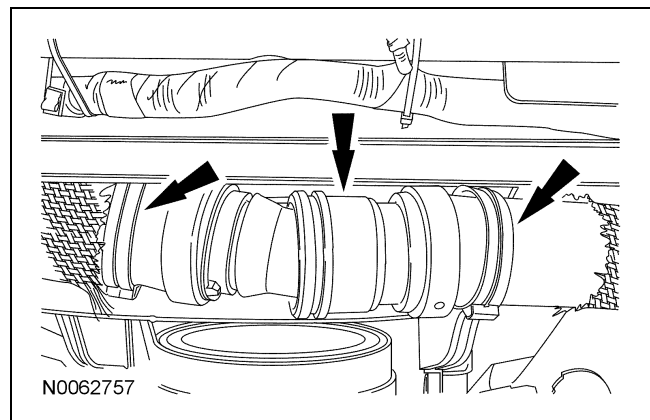
73. Using the Transmission Cooler Line Disconnect Tool, disconnect the transmission lines from the transmission cooler hoses and remove from the retainer on the frame.



74. Remove the retaining clip and separate the lower radiator hose.



75. Disconnect the lower radiator hose from the retainers on the frame.



76. If equipped, remove the running boards.

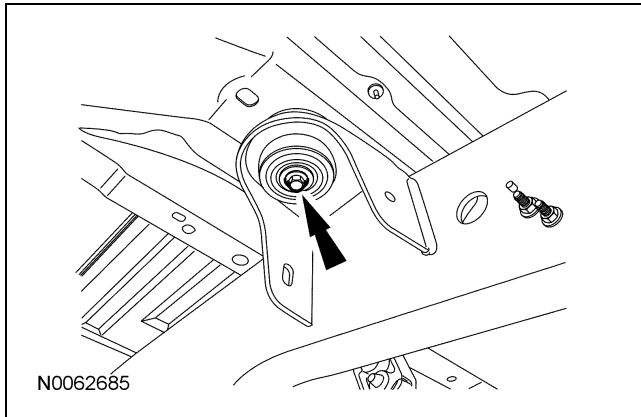
REMOVAL AND INSTALLATION (Continued)

77. **NOTE:** Make sure to use only hand tools when removing the body mounting bolts.


NOTE: Make sure the insulator is removed with the body bolt.

Remove the body mounting bolts starting with the rear bolts.

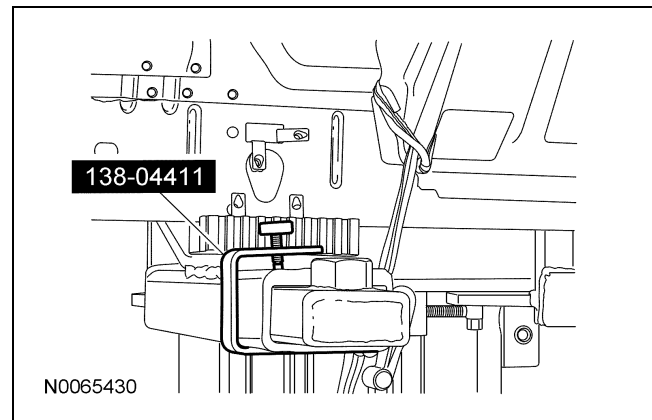
- Discard the body bolts.
- To install, tighten to 103 Nm (76 lb-ft).



78. Lower the vehicle.
79. Place several fender covers between the cab and the pickup bed.
80. **NOTE:** Marking the position of the tires will aid in aligning the cab to the chassis.
Mark the position of the tires on the floor.
81. **NOTE:** A 2-post hoist must be used to lift the body from the chassis.
Position equally side-to-side the hoist lift pads below the pinch welds at the furthest most possible front and rear positions.

82.  **WARNING:** Securely strap the cab to the lift using an appropriate tool. If the cab is not correctly secured, it could shift or fall. Failure to follow this instruction may result in serious personal injury.

Using the Universal Cab Hold-Down Strap, secure the vehicle to the hoist.



83. **NOTICE:** An assistant will be necessary to make sure all connections are disconnected and nothing interferes with the raising of the body while it is lifted.
With the aid of an assistant, lift the body from the chassis.
84. To install, reverse the removal procedure.
- Align the tires to the marks on the floor.
 - Top off the fluids.
 - Install new body bolts.